Content available at: https://www.ipinnovative.com/open-access-journals

Annals of Geriatric Education and Medical Sciences

Journal homepage: https://www.agems.in/

Original Research Article

Impact of social media on dissemination of cardiovascular health information in the general population: A cross sectional study

Sandeep Kumar Reddy Bandakadi[1], Abhishek Narasimhulu[2], Ria Singh Rawat[3], Saisree Konda[2], Sree Harshitha Vallabhaneni[4], Mankirat Kaur[5]*

[1]*Osmania Medical College, Hyderabad, Telangana, India*
[2]*Government Medical College, Anantapur, Andhra Pradesh, India*
[3]*Raja Rajeswari Medical College & Hospital, Kambipura, Karnataka, India*
[4]*Apollo Institute of Medical Sciences and Research, Hyderabad, Telangana, India*
[5]*Sri Guru Ram Das Institute of Medical Sciences and Research, Qila Jiwan Singh, Punjab, India*

ARTICLE INFO

Article history:
Received 12-04-2024
Accepted 28-06-2024
Available online 29-07-2024

Keywords:
Cardiac arrest
Heart attack
Social media
Instagram

ABSTRACT

Introduction: Cardiovascular diseases are known to be the leading cause of death annually worldwide with an estimated 17.9 million lives each year. Cardiovascular diseases are common in the age group 40-59 years, who coincidentally, are becoming increasingly active users of social media platforms and help to disseminate information amongst their peers. The study aimed to identify whether the information circulating on social media regarding cardiovascular diseases is pertinent and trust-worthy.

Materials and Methods: A web-based study was conducted with the formulation of an elaborate questionnaire. The data was analyzed in Microsoft Excel Sheet which was then used for the analysis of the data obtained.

Results: The study identified 457 relevant posts in total of which 386 (84.46%) were in the form of posts and 71 (15.53%) composed of video content.

Conclusions: Our analysis revealed that only 204 (44.63%) of the total relevant posts featured descriptions of cardiac arrest, while the remaining 253 (55.36%) did not. The majority of the posts, 380 in total, lacked information regarding the prevalence of cardiac arrest, and 306 posts had no information about the etiology of cardiac arrest. It was discovered that 61.17% and 81.61% of the posts were useful and offered information regarding heart attack prevention and treatment, respectively. Out of 457 relevant entries, 400 did not possess any information about the mortality connected to an adverse event of cardiac origin.

1. Introduction

Social media has become a necessary component of daily existence and its utilization is progressively interwoven with the medical field. Instagram has a no cost image and video sharing virtual entertainment application that has been widely used in a multitude of fields, medicine being no exception.[1] Legislative and non-legislative foundations progressively utilize virtual entertainment as an essential device for public awareness. Worldwide spread, expeditiousness, and dialogic possibilities make these stages ideal for general well-being for crisis correspondence in emergencies such as the COVID-19 pandemic.[2,3]

Annually, cardiovascular diseases are known to be the leading cause of death worldwide with an estimation of 17.9 million lives.[4] Cardiovascular diseases are common in the age group of 40-59 years, who coincidentally, are becoming increasingly active users of social media platforms to share

* *Corresponding author*.
E-mail address: mankiratkaur2309@gmail.com (M. Kaur).

https://doi.org/10.18231/j.agems.2024.003

information amongst their peers.

It is a common predilection of the freedom of speech enabling everyone to share their knowledge with people all over the world, but not everyone questions its authenticity.[5] This could easily lead to misinformation being spread regarding basic and crucial processes like CPR or first aid, which can help save lives outside of the hospital setting. Often, celebrities use medical hashtags to go viral, which can interfere with the algorithm and fail to display the information one might be looking for.[6]

This study has been undertaken for the purpose of shedding light on recent trends since a large population in India has started using Instagram as a primary modality to search about their health conditions, especially after the Covid-19 pandemic. Similarly, the general population also utilizes Instagram to search for other information related to our topic and then we decided to analyze the accuracy of information being circulated.

2. Aims and Objectives

To assess whether the information circulating on Instagram is pertinent and trustworthy, relevant, and find out the reach of the posts, through likes and other variables.

3. Materials and Methods

We conducted a web-based study over a period of 5 days from the 20th of August, 2022 until the 25th, verifying the accuracy of health information regarding cardiac arrest found on Instagram. We used the World Health Organization (WHO) site as a reference for accurate information. We searched for Hashtags related to cardiac arrest on Instagram and chose top 6 hashtags and analyzed them. The top 6 hashtags chosen are *cardiacarrest, cardiacarrestswareness, heartattack, heartattackprevention, heartattacksymptoms, and heartattacktreatment.* We made a proforma of the criteria to be analyzed including duration, likes, comments, details of the entity who posted (for example, if the post was made by a health professional, health & wellness industry/ website, news agency, dietician, survivor or a patient) and the posts were analyzed.

We set predetermined conditions to analyze the information on the post, including the following variables: Language choice of the post, whether it was a video or a post, if it included description of a cardiac arrest (cause, prevalence, signs, symptoms, prevention, treatment and mortality) and also if the post was considered to be interesting or hilarious, comparing it to the information being true or false. The authors analyzed in total 100 Instagram posts. Data was analyzed using Microsoft Excel.

4. Results

The study identified 457 relevant posts in total, of which 386 (84.46%) were in the form of posts and 71 (15.53%) comprised video content.

Table 1: Number of posts per hashtag

Hashtags Used	N (%)
cardiacarrest	67 (14.66%)
cardiacarrestswareness	86 (18.81%)
Heartattack	100 (21.88%)
Heartattackprevention	86 (18.81%)
Heartattacksymptoms	94 (20.56%)
Heartattacktreatment	24 (5.25%)
Total	457

Table 2: Number of posts according to uploader type

Hashtags posted by	N (%)
Doctors	91 (19.91%)
Health & wellness industry/ website	190 (41.57%)
News agency	44 (9.62%)
dieticians	61 (13.34%)
Survivor/ Person suffering from the disease	42 (9.19%)
others	29 (6.34%)
Total	457

The analysis criteria that has been described above included the language used, the number of likes and comments the post has received over time, the information available in the form of prevalence, etiology, prevention and treatment regarding cardiac arrest, whether the post was humorous, and whether the information is true or false.

Isplays the following hashtags that were identified as being highly relevant out of 457 posts: Cardiacarrest, Cardiacarrestswareness, Heartattack, Heartattackprevention, Heartattacksymptoms, Heartattack treatment.

provides illustrations of posts made by doctors, Health wellness industry/ website, News agencies, Dietitians, Survivor/ Person suffering from the disease and others to determine whether health professionals accounted for the majority of posts.

5. Discussion

The investigation found a total of 457 pertinent posts, of which 71 (15.53%) contained video material and 386 (84.46%) were mere posts. A total of six cardiovascular hashtags were used. Our study shows how Instagram may be used to better understand and how information about cardiac arrest and other cardiovascular health issues are spread and debated.

Firstly, previous studies have demonstrated that the health-related traffic on Instagram is composed of both individuals and organizations.[4] In our study we have also discovered that 190 (41.47%) posts from a website in the health and wellness sector were the most pertinent, followed by doctors 91 (19.91%) and dietitians 61(13.34%). This shows that many health-related organizations are more

proactive in delivering information related to cardiovascular diseases.

Furthermore, future research should examine languages other than English to give a more thorough and inclusive examination of Instagram content because the study found that WHO and IRFC have international audiences whose native tongue may not be English.[6] For instance, Instagram accounts in different languages like Arabic (e.g., Ministry of Health, Sultanate of Oman) and Spanish (e.g., Secretary de Salud, Mexico) may be able to give a more localized summary of the various health messaging modalities.[7] Our research also showed that the majority of the posts i.e. 446(97.59%) were made in only two languages—English and Hindi and 11 posts(2.40%) were made in other languages as well.[8]

Interestingly, the previous research conducted in this sphere also found that the high-volume users had a sizable number of followers and received a lot of 'likes'.[9] This finding supports the notion that healthcare professionals play a significant role in the online health debate.[4] Our study revealed that 230 posts (50.32%) had less than 50 likes on the Instagram, 61 posts (13.34%) had likes between 50-100, 76 posts (16.65%) had likes between 100-500 and lastly 90 posts (19.63%) had likes more than 500 as well. The social media users also left comments beneath each post. Our study revealed that the majority of the posts, 418 which accounts for 91.46% of the total relevant posts, had less than fifty comments whereas 21(4.59%) and 17(3.71%) had comments between fifty to hundred and hundred to five hundred respectively.[10]

The fourth conclusion we derived from our study being 61.17% and 81.61% of the posts were useful and offered information regarding heart attack prevention and treatment. This can be compared to the recent research of patients hospitalized with an acute coronary syndrome in a specific location found that the majority of patients were familiar with the warning signs, resulting in lesser delays in seeking medical assistance.[11]

In finality, it is reasonable to assume that not every involvement is positive, and that there may be times when an offensive social media post receives a lot of attention.[12] Our researchers have also found that 332 postings (72.76%) were true and only 1 post (0.21%) presented misleading information.[13]

Paradoxically, 124 posts (27.12%) could not be verified of their authenticity by the co-authors. Misinformation about cardiac arrest has proven as unpleasant as the event itself. 418 (91.46%) posts showed that there were no memes or cartoons, but 39(8.53%) posts did. Our analysis revealed that 204 (44.63%) of the total relevant posts featured descriptions of cardiac arrest, while the remaining 253 (55.36%) did not. The bulk of the postings, 380 in total, lacked information regarding the prevalence of cardiac arrest, and also 306 posts had no information about the etiology of cardiac arrest. It was discovered that 61.17% and 81.61% of the posts were useful and offered information regarding heart attack prevention and treatment, respectively.[11] Out of 457 relevant entries, 400 did not have any information about the mortality connected to cardiac arrest.

Thus, there is immense potential for health organizations to increase their involvement in combating misinformation on Instagram and other social media platforms by offering accurate information, guiding users to reliable sources, and serving as a fact-check for erroneous material.[14,15]

6. Source of Funding

None.

7. Conflict of Interest

None.

References

1. Fung IC, Blankenship EB, Ahweyevu JO, Cooper LK, Duke CH, Carswell SL, et al. Public health implications of image-based social media: a systematic review of Instagram, Pinterest, Tumblr, and Flickr. *Perman J*. 2020;24:307. doi:10.7812/TPP/18.307.
2. Partridge SR, Grunseit AC, Gallagher P, Freeman B, Hara BJ, Neubeck L, et al. Cardiac patients' experiences and perceptions of social media: Mixed-methods study. *J Med Internet Res*. 2017;19(9):e323. doi:10.2196/jmir.8081.
3. Katz M, Nandi N. Social media and medical education in the context of the COVID-19 pandemic: scoping review. *JMIR Med Educ*. 2021;7(2):e2589. doi:10.2196/25892.
4. Bosley JC, Zhao NW, Hill S, Shofer FS, Asch DA, Becker LB. Decoding twitter: Surveillance and trends for cardiac arrest and resuscitation communication. *Resuscitation*. 2013;84(2):206–18.
5. Ko SY, Shin D, Song S, Park KJ, Lee JH. Effect of awareness time interval for out-of-hospital cardiac arrest on outcomes: a nationwide observational study. *Resuscitation*. 2020;147:43–52.
6. Wong XL, Liu RC, Sebaratnam DF. Evolving role of Instagram in# medicine. . *Inter Med Jo*. 2019;49(10):1329–61.
7. Chow EJ, Doody DR, Di C, Armenian SH, Baker KS, Bricker JB. Feasibility of a behavioral intervention using mobile health applications to reduce cardiovascular risk factors in cancer survivors: a pilot randomized controlled trial. *J Cancer Survivorship*. 2021;15(4):554–63.
8. Rubin R. Getting social: physicians can counteract misinformation with an online presence. *Jama*. 2019;322(7):598–600.
9. Nehme Z, Bernard AE, Patsamanis S, Cameron H, Bray P, Meredith JE, et al. Impact of a public awareness campaign on out-of-hospital cardiac arrest incidence and mortality rates. *Eur Heart J*. 2017;38(21):1666–73.
10. Rovetta A, Bhagavathula AS. Global infodemiology of COVID-19: analysis of Google web searches and Instagram hashtags. *J Med Internet Res*. 2020;22(8):e20673.
11. Allan KS, Neil E, Currie MM, Lin S, Sapp JL, Dorian P. Responding to cardiac arrest in the community in the digital age. *Canadian J Cardiol*. 2021;38(4):491–501.
12. Folkvord F, Roes E, Bevelander K. Promoting healthy foods in the new digital era on Instagram: an experimental study on the effect of a popular real versus fictitious fit influencer on brand attitude and purchase intentions. *BMC Public Health*. 2020;20(1):1–8.
13. Malik A, Khan ML, Quan-Haase A. Public health agencies outreach through Instagram during the COVID-19 pandemic: Crisis and Emergency Risk Communication perspective. *Int J Dis Risk Reduc*. 2021;61:102346.

14. Onyeka TC, Itanyi IU, Ezugwu HU, Allsop M. Learning about cardiac arrest from'Dr. Google': a pre-and peri-pandemic infodemiology study in Nigeria. *Pan African Med J*. 2022;42:22. doi:10.11604/pamj.2022.42.22.34249.
15. Lancet T. Out-of-hospital cardiac arrest: a unique medical emergency. *Lancet*. 2018;391:911–911.

Author biography

Sandeep Kumar Reddy Bandakadi, Medical Graduate https://orcid.org/0000-0002-0380-4675

Abhishek Narasimhulu, Medical Graduate https://orcid.org/0009-0003-1660-073X

Ria Singh Rawat, Intern https://orcid.org/0009-0004-6735-9234

Saisree Konda, Medical Graduate https://orcid.org/0009-0007-6502-0722

Sree Harshitha Vallabhaneni, Intern https://orcid.org/0009-0004-1989-7070

Mankirat Kaur, Medical Graduate

Cite this article: Kumar Reddy Bandakadi S, Narasimhulu A, Rawat RS, Konda S, Vallabhaneni SH, Kaur M. Impact of social media on dissemination of cardiovascular health information in the general population: A cross sectional study. *Ann Geriatrics Educ Med Sci* 2024;11(1):11-14.